

Course Manual AT

Antenna Technology

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– General information

Long name Antenna Technology

Approving CModule [AT_BaET](#), [AT_BaTIN](#)

Responsible Prof. Dr. Rainer Kronberger
Professor Fakultät IME

Valid from summer semester 2023

Level Bachelor

Semester in the year winter semester

Duration Semester

Hours in self-study 150

ECTS 5

Professors Prof. Dr. Rainer Kronberger
Professor Fakultät IME

Requirements GE1, GE2, GE3, EL1,
GHF, Mathematics

Language German

Separate final exam Yes

Literature

Meinke/ Gundlach: Taschenbuch der
Hochfrequenztechnik Bd. 1-3 Springer Verlag

Detlefsen/Siart: Grundlagen der HF-Technik.
Oldenbourg Verlag

Zinke/ Brunswig: Hochfrequenztechnik 1, Filter,
Leitungen, Anten-nen, Springer Verlag

Final exam

Details oral

Minimum standard Minimum Score 4.0

Exam Type EN mündliche Prüfung,
strukturierte Befragung

– Lecture / Exercises

Learning goals

Goal type	Description
Knowledge	<ul style="list-style-type: none">• electromagnetic fields and waves, Maxwell Equations• wave propagation, polarization, reflection and transmission of waves on materials and boundaries
Knowledge	<ul style="list-style-type: none">- pattern, directivity, gain, impedance, efficiency- linear antennas, monopole, dipole, arrays, Yagi-Uda antenna, parabolic antenna- mobile antennas and terminal antennas- antenna measurements, nearfield, farfield,
Skills	understand electromagnetic waves
Skills	Ability to use simulation tools
Skills	Learn measurement methods and methodologies
Skills	Understand the functional principle of antennas

Expenditure classroom teaching

Type	Attendance (h/Wk.)
Lecture	0
Tutorial (voluntary)	0

Special requirements

High Frequency Technologies

Accompanying material	Printed slides and script
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Separate exam	No
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– Lecture / Exercises

Learning goals

Goal type	Description
Skills	Understand measurements at higher frequencies
Skills	Learn how to use simulation tools
Skills	Learn how to handle RF measurement equipment
Skills	Learn how to perform antenna measurements
Skills	Perform antenna simulations
Skills	Write scientific reports

Expenditure classroom teaching

Type	Attendance (h/Wk.)
Project	0
Tutorial (voluntary)	0

Special requirements

none

Accompanying material Manual, Manual

Separate exam Yes

Separate exam

Exam Type EN Projektaufgabe im Team bearbeiten (z.B. im Praktikum)

Details Development of an antenna

Minimum standard 4.0